

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A spatio-temporal filter unit ~~(100)~~,
~~provided with~~comprising a sigma filter ~~(112)~~, ~~to reduce the~~for
reducing noise in images, characterized in that the sigma filter
~~(112)~~ comprises one filter kernel ~~(107)~~ ~~designed to operate~~for
5 operating on pixels from both a current image and from ~~the~~an
output ~~(118)~~ of the spatio-temporal filter unit, ~~being said output~~
supplying a temporally recursive filtered image.

2. (Currently Amended) ~~A~~The spatio-temporal filter unit ~~(100)~~
as claimed in Claim 1, characterized in that ~~it~~said spatio-
temporal filter unit further comprises:

— _____ a spatial pixel buffer ~~(104)~~ ~~to store~~for storing pixels of
5 the current image as supplied to the spatio-temporal filter unit;

— _____ a spatial pixel selector ~~(106)~~ ~~to select~~for selecting
pixels from the spatial pixel buffer ~~(104)~~;

— _____ a temporal pixel buffer ~~(108)~~ ~~to buffer~~for buffering
pixels from the output ~~(118)~~ of the spatio-temporal filter unit,

10 ~~being a temporally recursive filtered image; and~~

— _____ a temporal pixel selector ~~(110)~~ ~~to select~~for selecting
pixels from the temporal pixel buffer ~~(108)~~; ~~and,~~

—wherein the sigma filter (112) is coupled to an output of said spatial pixel selector and to an output of said temporal pixel selection, said
15 ~~comprising~~ one filter kernel (107) ~~designed to operate~~operating on the pixels from both the spatial pixel selector (106) and the temporal pixel selector (110).

3. (Currently Amended) A The spatio-temporal filter unit (100) as claimed in Claim 2, characterized in that ~~it~~ the sigma filter comprises an adaptive sigma filter ~~(112)~~.

4. (Currently Amended) A The spatio-temporal filter unit (100) as claimed in Claim 3, characterized in that an aperture of at least one of the ~~pixel selectors, being the~~ temporal pixel selector (110) and the spatial pixel selector (106), ~~the aperture can be~~
5 ~~adjusted~~is adjustable.

5. (Currently Amended) A The spatio-temporal filter unit (100) as claimed in Claim 4, characterized in that at least one of the ~~pixel selectors, being the~~ temporal pixel selector (110) and the spatial pixel selector (106), ~~is designed such that the~~ a distance
5 ~~between the selected pixels is adjustable~~.

6. (Currently Amended) A The spatio-temporal filter unit (200) as claimed in Claim 4, characterized in that ~~it~~ said spatio-

temporal filter unit further comprises a motion detector (224)
designed to detect for detecting motion, said motion detector
5 controlling and to control the aperture of the temporal pixel
selector (210) based on the detected motion.

7. (Currently Amended) A The spatio-temporal filter unit (200)
as claimed in Claim 4, characterized in that ~~it~~ said spatio-
temporal filter unit further comprises a motion estimator (222)
designed to supply for supplying motion vectors, said motion
5 estimator controlling a and to control the position of the temporal
pixel selector (210) related relative to the temporal pixel buffer
(208), ~~based on the motion vectors supplied by the motion estimator~~
(222).

8. (Currently Amended) A The spatio-temporal filter unit (200)
as claimed in Claim 4, characterized in that ~~it~~ said spatio-
temporal filter unit further comprises a noise estimator (220)
designed to estimate for estimating a noise level in the current
5 image and to control, said noise estimator controlling the aperture
of at least one of the ~~pixel selectors, being the~~ temporal pixel
selector (210) ~~and the spatial pixel selector (206),~~ based on the
estimated noise level.

9. (Currently Amended) ~~A~~ The spatio-temporal filter unit ~~(200)~~
as claimed in Claim 4, characterized in that ~~it~~ said spatio-
temporal filter unit further comprises a noise estimator ~~(220)~~
~~designed to estimate~~ for estimating a noise level in the current
5 ~~image and to control~~, said noise estimator controlling thresholds
of the adaptive sigma filter ~~(212)~~, based on the estimated noise
level.

10. (Currently Amended) An image display apparatus ~~(300)~~
comprising:

— receiving means ~~(302)~~ for receiving a signal representing
images;

5 — a display device ~~(306)~~ for displaying the images; and

— a spatio-temporal filter unit ~~(100)~~, provided
with comprising a sigma filter ~~(112)~~, ~~to reduce~~ for reducing the
noise in the images, characterized in the sigma filter ~~(112)~~
comprises one filter kernel ~~(107)~~ ~~designed to operate~~ operating on
10 pixels from both a current image and from ~~the~~ an output ~~(118)~~ of
the spatio-temporal filter unit, ~~being~~ said output supplying a
temporally recursive filtered image.

11. (Currently Amended) An image display apparatus ~~(300)~~
comprising:

—_____receiving means ~~(302)~~for receiving a signal representing images;

5 —_____a display device ~~(306)~~for displaying the images; and

—_____a spatio-temporal filter unit ~~(100)~~, ~~provided~~
~~with~~comprising a sigma filter ~~(112)~~, ~~to reduce the noise~~for
reducing in the images, characterized in that ~~it~~said spatio-
temporal filter unit further comprises:

10 —_____a spatial pixel buffer ~~(104)~~to storefor storing pixels of
a current image as supplied to the spatio-temporal filter unit;

—_____a spatial pixel selector ~~(106)~~to selectfor selecting
pixels from the spatial pixel buffer ~~(104)~~;

—_____a temporal pixel buffer ~~(108)~~to bufferfor buffering
15 pixels from the output ~~(118)~~of the spatio-temporal filter unit,
~~being~~said output supplying a temporally recursive filtered image;
and

—_____a temporal pixel selector ~~(110)~~to selectfor selecting
pixels from the temporal pixel buffer ~~(108)~~; ~~and,~~

20 —wherein the sigma filter ~~(112)~~, ~~being~~is an adaptive sigma filter
and is coupled to an output of said spatial pixel selector and an
output of said temporal pixel selector, said sigma filter
comprising one filter kernel ~~(107)~~designed to operatefor operating
on the pixels from both the spatial pixel selector ~~(106)~~and the
25 temporal pixel selector ~~(110)~~.